

WHAT IS CLAIMED IS:

1. A method for selecting access points for a communication device comprising the steps of:

- 5 determining a position of the communication device;
determining available access points;
obtaining information related to the available access points;
determining combined requirements of the communication device;
mapping the information related to the available access points with the
position and the combined requirements of the communication device to obtain
10 mapped information; and
selecting at least one access point as a function of the obtained mapped
information.

2. The method of claim 1, wherein the mapping step comprises the steps of:

- 15 determining a geographical position of the available access points relative to the position of the communication device;
determining a spatial relation between an antenna of the communication device and the available access points, wherein the information related to available access points includes information related to the position and the spatial relation
20 between the available access points and the antenna of the communication device.

3. The method of claim 2, wherein the mapping is performed in the communication device.

4. The method of claim 2, wherein the communication device is located within a personal area network, and wherein the mapping is performed by a second device within the personal area network.

5. The method of claim 2, wherein the mapping is performed by a node in an access network.

6. The method of claim 3, wherein a node in an access system provides the information related to the position and the spatial relation between the access points and the communication device.

7. The method of claim 4, wherein a node in an access system provides the information related to the position and the spatial relation between the access points and the communication device.

8. The method of claim 6, wherein the node is common to at least two access networks within a network system.

9. The method of claim 7, wherein the node is common to at least two access networks within a network system.

10. The method of claim 1, wherein the selection step is performed with user interaction.

11. The method of claim 1, wherein the combined requirements of the communication device are based upon user preferences.

12. The method of claim 11, wherein the combined requirements of the communication device are further based upon service/application requirements of the communication device.

13. The method of claim 12, further comprising the steps of:
5 determining capabilities of at least one access network within a network system;
comparing the combined requirements of the communication device with the capabilities of the access network;
selecting those requirements which are common to both the capabilities of
10 the access network and the combined requirements of the communication device;
determining mismatched requirements between the capabilities of the access network and the combined requirements; and
if mismatched requirements between the capabilities of the access network and the combined requirements are determined, performing the step of
15 determining a compromise between the mismatched requirements.

14. The method of claim 11, wherein the combined requirements for the communication device are further based upon user preferences of a second communication device within a personal area network.

15. The method of claim 11, wherein the user preferences are selected
20 from the group consisting of:
security services provided by an access point, trust between the communication device and the access point, cost associated with establishing the connection, quality of the connection, reliability of the connection, and speed of data transfer.

16. The method of claim 11, wherein the preferences are stored in the communication device.

17. The method of claim 11, wherein the preferences are stored in a second device within a personal area network.

5 18. The method of claim 11, wherein the preferences are stored in a communication system and the system selectively provides the communication device with information related to access points.

19. The method of claim 1, wherein the selection is made without user interaction.

10 20. The method of claim 1, further comprising the steps of:
receiving, by a second communication device within a personal area network, the position and combined requirements of the communication device;
providing, by the second communication device, the position and combined requirements to a network; and

15 receiving, by the second communication device from the network, information related to access points, wherein the second communication device provides the communication device with the information related to access points.

20 21. The method of claim 1, wherein the determined position is not the current geographical position of the communication device.

22. The method of claim 2, wherein the determined spatial relation between an antenna of the communication device and the access points is an

intermediate position within communication range of at least two of the access points.

23. The method of claim 22, wherein the intermediate position within communication range of the at least two access points is an optimal position based on the combined requirements.

24. The method of claim 1, wherein the determined position is a predetermined position of the communication device and the determined position is not related to the current position of the communication device.

25. The method of claim 1, wherein the step of determining requirements of the communication device comprises the step of:
determining an environment of the communication device, wherein the information related to access points is based upon an environment of the communication device and the mapping.

26. The method of claim 25, wherein the providing step comprises the step of:
recommending an access point, wherein the environment of the communication device is considered in the recommendation.

27. The method of claim 26, wherein the recommendation is presented to a user.

28. The method of claim 26, wherein the recommendation is presented to a central intelligence.

29. The method of claim 1, wherein the information related to access points includes recommendations related to the access points.

30. The method of claim 29, wherein the recommendations include directions for locating at least one access point.

5 31. The method of claim 30, wherein the directions include information related to distance or spatial position between the communication device and at least one access point.

10 32. The method of claim 1, wherein the mapped information is a subset of the determined available access points, and wherein the selection of at least one access point is not a point in the subset.

33. A system comprising:
a communication device capable of communicating using a first and second access technology;
a network including a node, wherein the node receives a position and
15 combined requirements of the communication device, and the node provides the communication device with information related to access points for networks which use the first or second access technology.

20 34. The system of claim 33, wherein the node is a second communication device and the network is a personal area network including the communication device.

35. The system of claim 33, wherein the first and the second access technologies are the same technologies.

36. The system of claim 33, wherein the node comprises:
means for determining a position of available access points relative to the
5 position of the communication device; and
means for determining a spatial relation between an antenna of the
communication device and an antenna of the access points, wherein the
information related to access points includes information related to the position
and the spatial relation between the antenna of the access points and the antenna of
10 the communication device.

37. The system of claim 36, wherein the alignment of the antennas is made automatically without user interaction.

38. The system of claim 33, wherein the combined requirements of the communication device are based upon user preferences.

15 39. The system of claim 38, wherein the combined requirements of the communication device are further based upon service/application requirements of the communication device.

40. The system of claim 39, further comprising:
means for determining the capabilities of the access points;
20 means for comparing the combined requirements of the communication device with the capabilities of the access points;

means for selecting those requirements which are common to both the capabilities of the access points and the combined requirements of the communication device; and

5 means for determining a compromise when there is a mismatch between the capabilities of the access points and the combined requirements of the communication device.

41. The system of claim 38, wherein the user preferences are selected from the group consisting of:

10 security services provided by an access point, trust between the communication device and the access point, cost associated with establishing the connection, quality of the connection, reliability of the connection, and speed of data transfer.

42. The system of claim 38, wherein the user preferences are stored in the communication device.

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43. The system of claim 38, wherein the user preferences are stored in a network system.

44. The system of claim 38, wherein the user preferences are stored in the node and the node selectively provides the communication device with
20 information related to access points.

45. The system of claim 38, wherein the node is a second communication device and the preferences are stored in the second communication

device which selectively provides the first communication device with information related to access points.

46. The system of claim 38, further comprising:

5 a second communication device which receives the position information and combined requirements of the communication device, provides the position information and requirements to the node, receives from the node information related to access points, and provides the communication device with the information related to access points.

10 47. The system of claim 36, wherein the determined position is not the current geographical position of the communication device.

48. The system of claim 36, wherein the determined position is a predetermined position of the communication device and the determined position is not related to the current position of the communication device.

15 49. The system of claim 36, wherein the determined position is a generalized geographical area.

50. The system of claim 33, wherein the information related to access points includes recommendations related to the access points.

20 51. The system of claim 50, wherein the recommendations include directions for locating at least one access point.

52. The system of claim 50, wherein the recommendations include directions to a geographical area which is an intermediate position within communication range of at least two access points, which are to be used simultaneously.

5 53. The system of claim 50, wherein the directions include information related to distance or spatial orientation between the communication device and at least one access point.

54. The system of claim 33, further comprising:
means for determining an environment of the communication device,
10 wherein the information related to access points is based upon the determined environment of the communication device and the mapping.

55. The system of claim 54, wherein the environment is a homogeneous transport environment.

56. The system of claim 54, wherein the environment is a
15 heterogeneous transport environment.

57. The system of claim 33, wherein application data related to access technologies is split into separate parts, wherein each part is mapped onto different access techniques according to the combined requirements.